

Gene Expression Profiling Databases on target cells vs. counterpart

**Fig. 16**



PROCESS STEP

EXAMPLES

Cell Set



Vector Tag



Measurement



PCR



Sequencing



Database



colon cancer/vs.  
normal colon cells  
  
or  
  
lung cancer /vs.  
normal lung epithelium  
  
or  
  
young organism cell set/vs.  
old organism cell set

MMLV w/  
hrGFP  
  
or  
  
 $\alpha(1,3)$ galactosyltransferase  
  
or  
  
DNA transfection

FACS scan for hrGFP fluorescence  
or  
ELISA for hrGFP protein  
or  
FACS scan for  $\alpha(1,3)$ GT induced  $\alpha$ -gal Ag  
or  
ELISA of  $\alpha(1,3)$ GT protein  
or  
use of magnetic field or chemiluminescence  
or  
enzymatic reaction for protein quantitation

STARS  
or  
SAVI  
or  
PCR

pyro sequencing  
or  
AB1 Machine Sequencing  
or  
sequencing

cancer cells database  
or  
normal cell database

**Fig. 18A**

PROCESS STEP

EXAMPLES

Search Process



Comparative  
Proteonomics



Pathway  
Analysis



Target  
Validation/  
Diagnostics



Drug  
Development

Parallel BLAST search EST  
 or  
 Search Genome database full sequence to define intron/exon  
 or  
 Alternative splicing database

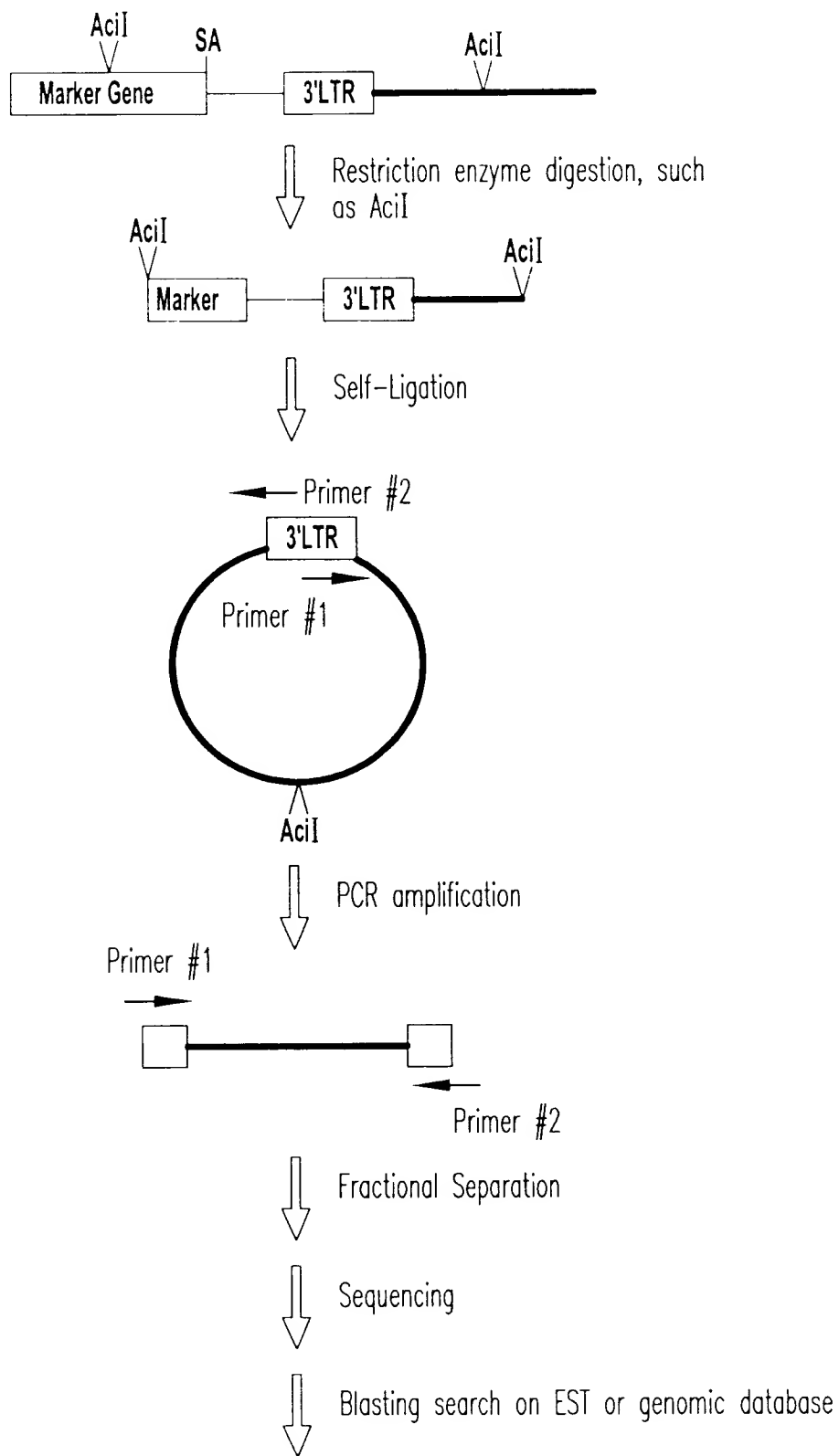
Compare colon cancer cell to normal colon epithelium  
 or  
 Compare lung cancer cell to normal lung cell

multigene co-variant  
 or  
 Specific cell circuit analysis e.g. cell cycle

Monoclonal Ab diagnostics Northern analysis, Western analysis  
 or  
 DNA assay/gene chip comparison  
 or  
 SNP Associations  
 or  
 Yeast 2-hybrid fishing for protein partner

monoclonal Antibody treatment  
 or  
 small molecule library search and/or  
 treatment  
 or  
 gene therapy  
 or  
 anti-sense  
 or  
 Ribozyme  
 or  
 any other conventional  
 pharmaceutical drug development

**Fig. 18B**



Gene Expression Profiling Databases on target cells vs. counterpart

**Fig. 16**

PROCESS STEP

EXAMPLES

Cell Set



colon cancer/vs.  
normal colon cells  
  
or  
  
lung cancer /vs.  
normal lung epithelium  
  
or  
  
young organism cell set/vs.  
old organism cell set

Vector Tag



MLV w/  
hrGFP  
  
or  
  
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Measurement



FACS scan for hrGFP fluorescence  
  
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ELISA of  $\alpha(1,3)$ GT protein  
  
or  
  
use of magnetic field or chemiluminescence  
  
or  
  
enzymatic reaction for protein quantitation

PCR



STARS  
  
or  
  
SAVI  
  
or  
  
PCR

Sequencing



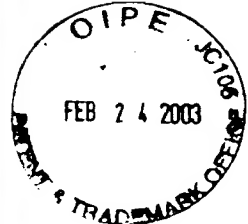
pyro sequencing  
  
or  
  
AB1 Machine Sequencing  
  
or  
  
sequencing

Database



cancer cells database  
  
or  
  
normal cell database

Fig. 18A



PROCESS STEP

EXAMPLES

Search Process



Comparative  
Proteonomics



Pathway  
Analysis



Target  
Validation/  
Diagnostics



Drug  
Development

Parallel BLAST search EST  
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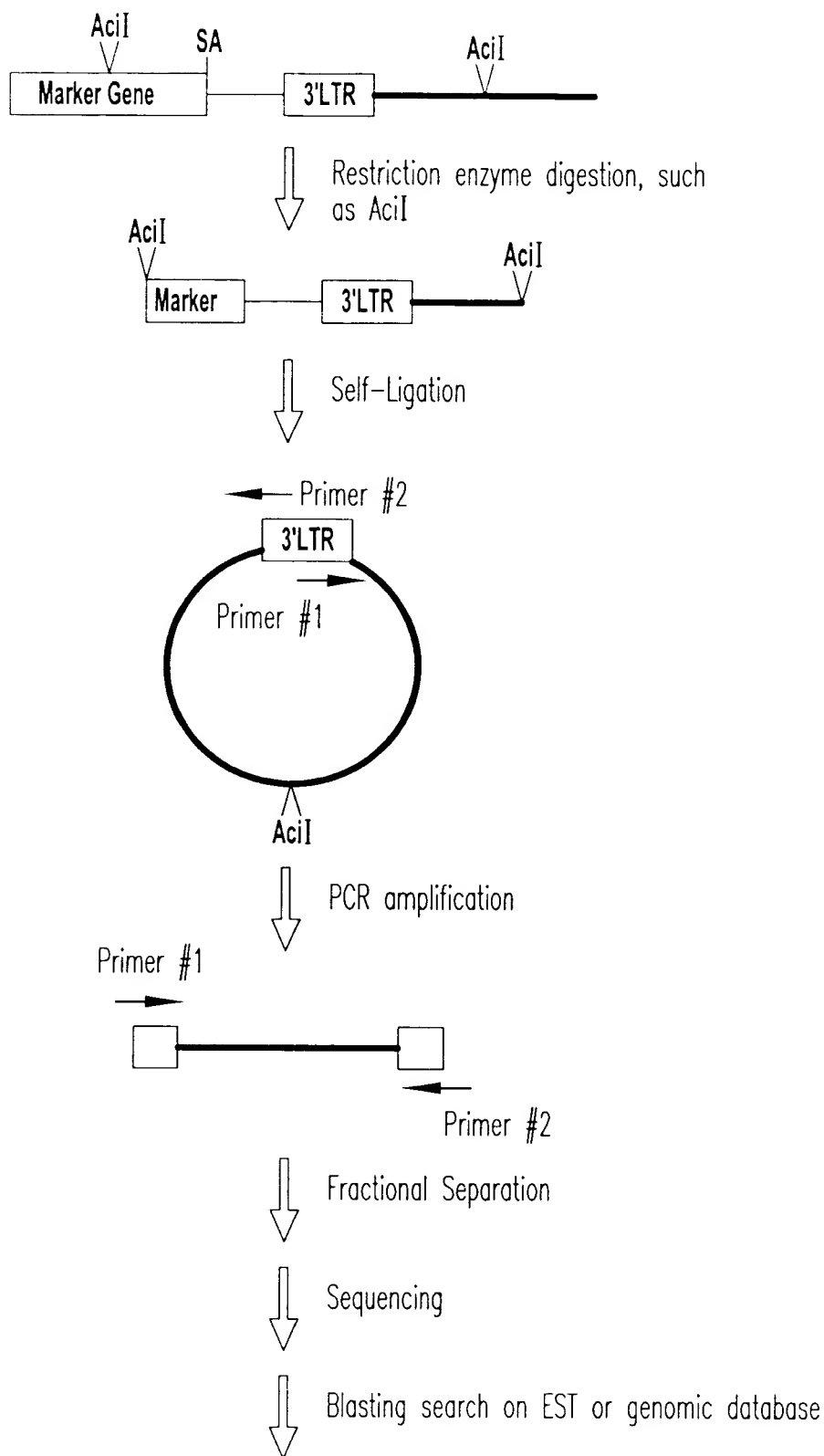
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or  
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anti-sense  
or  
Ribozyme  
or  
any other conventional  
pharmaceutical drug development

**Fig. 18B**



Gene Expression Profiling Databases on target cells vs. counterpart

**Fig. 16**

PROCESS STEP

EXAMPLES

Cell Set



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or  
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normal lung epithelium  
  
or  
young organism cell set/vs.  
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or  
use of magnetic field or chemiluminescence  
or  
enzymatic reaction for protein quantitation

PCR



STARS  
or  
SAVI  
or  
PCR

Sequencing



pyro sequencing  
or  
AB1 Machine Sequencing  
or  
sequencing

Database



cancer cells database  
or  
normal cell database

**Fig. 18A**





PROCESS STEP

EXAMPLES

Search Process



Comparative  
Proteonomics



Pathway  
Analysis



Target  
Validation/  
Diagnostics



Drug  
Development

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or

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Alternative splicing database

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or

gene therapy

or

anti-sense

or

Ribozyme

or

any other conventional

pharmaceutical drug development

Fig. 18B